PATENT ABSTRACTS OF JAPAN

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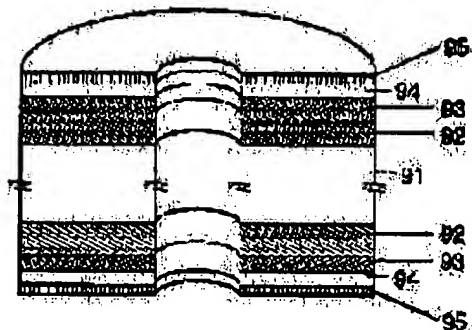　　　　　　　　HOSOE YUZURU
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(54) MAGNETIC STORAGE MEDIUM AND MAGNETIC STORAGE DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To achieve a storage density of at least 5Gbits per square inch by constituting the magnetic layer of a magnetic storage medium being reproduced by a magnetoresistive magnetic head using a mixture of a non-magnetic compound consisting of an oxide and a nitride and a magnetic material mainly consisting of Co and Sm and setting the molar ration of Sm to Co to a value within a specific range.

SOLUTION: A non-magnetic plating layer 92 consisting of Ni-P is formed on the surface of a substrate 91 using Al-Mg alloy. In 15mTorr argon gas atmosphere, the temperature of the substrate is set

to a room temperature and a magnetic layer 93 where a silicon oxide is added to Co-20at.% Sm is formed to 25nm thickness by an RF magnetron sputtering. In this case, the molar ratio of Sm to Co in the magnetic layer is set to the range of 0.1-0.4. Then, the molar ratio of silicon oxide to Co is set to a range of 0.6-1.0. Finally, a carbon protection layer 94 is formed by a DC magnetron sputtering.

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